Measurement Challenges in Proteomics

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Roadmapping America's Measurement Needs in the Protein Sciences

The National Institute of Standards and Technology (NIST) is facilitating a U.S. Measurement System (USMS) initiative that it will be undertaking in close cooperation with the private and public sectors to ensure that the nation's highest-priority measurement needs are identified and met in the 21st century. NIST plans to publish a USMS Roadmap on a regular basis, reporting to USMS customers and stakeholders on what should be done, by NIST and others, to meet the needs of the USMS, and delineating the consequences of not meeting those needs. The *Measurement Challenges in Proteomics* Workshop is part of this initiative and will endeavor to survey (identify and prioritize) systemwide needs in coordinating, performing and using protein measurements.

The inability to establish performance to better understand the quality of proteomic technique results, has led to poor confidence in protein measurement techniques, difficulty in assessing the agreement of different experiments, conflicting reports in the literature, and lost opportunity. If proteomics technologies are to successfully make their way into clinical diagnostics, universally accepted metrics will be needed at many steps along the way to help clarify experimental results and protocols and make them comparable.

By participating in this workshop, members will help identify and prioritize a measurement needs agenda that addresses the technical infrastructure (measurement science, standards, and data) in the field of proteomics. Participants will also identify how best to transfer knowledge and share priorities across industry, clinical laboratories, government, funding agencies, regulatory agencies, educational and not-for-profit institutions in order to build strong collaborations and partnerships. By the end of the workshop, a roadmap of the measurement needs should be outlined. The steps needed to address these needs as well as the consequences of inaction will be stated.



